Application No.: 09/980,910 Docket No.: NY-DNAG 224-US

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

A new abstract is provided to overcome the objection thereto.

Claims 1, 27 and 29-30 were rejected as allegedly obvious over Seidel in view of Reed. Applicants respectfully traverse.

Seidel only discloses phosphating solutions with up to 25 g/L Zn. All the examples show a Zn content of up to 24 g/l with the exception of example 16. Seidel does not mention to use hydrogen peroxide or polymers. Comparison example 16 shows an extraordinarily high content of orthophosphoric acid which leads to a low pH value of 0.6 and to a high coating weight of 7.15 g/m^2. The addition of 560 g/L H_3PO_4 corresponds to 344.7 g/L P_2O_5 and is therefore outside the claimed ranges. Seidel discloses a range of pH values of 1 to 4 and a range of coating weights of 0.3 to 3 g/m^2.

Reed describes a zinc phosphate coating process specifically adapted for the continuous coating of steel wires. During the drawing phase, the wire length is enhanced by a large factor and the phosphate coating thicknesses is significantly reduced. Such coatings are significantly thicker than coatings used only for corrosion protection and paint adhesion, as they help to reduce the forces during wire drawing. At col. 2, lines 50-54, the phosphate coating are described as having a coating weight of 5 to about 13 g/m^2, but, e.g., claim 49 of the present application which recites a range of 0.2 to 5 g/m^2.

Reed, in the table of col. 4, discloses a Zn content of the concentrates of 230.5 and 216.8 g/L respectively; in table 1 zinc phosphating compositions have a Zn content of 35.3 to 45.0 g/L, and in table 3 compositions have a Zn content of 37.7 g/L. Nowhere is there a hint or suggestion to add managnese to the phosphating composition. In col. 1, 2nd par., manganese phosphate is disapproved because of slow reaction rates, therefore, one could expect that that zinc phosphate with a certain manganese content will have a reduced reaction rate. Thus, the refernce teaches against the use of manganese phosphate.

The only cations disclosed besides of zinc for the phosphating are nickel, copper and calcium (See col. 4, 2nd par.). The only accelerators mentioned by Reed are NO_3 and NO_2.

According to preferred embodiments, the present application, a dry-in-place technique is preferably used for quick moving metal tapes/coils/sheets and, therefore, the velocity of the chemical reactions is important, too, as coating occurs within a time range of about 0.1 to few seconds.

In view of the foregoing, it is believed that the rejection must be withdrawn.

Claims 1 and 27-30 were rejected as allegedly obvious over Cuyler. Applicants respectfully traverse.

Cuyler discloses phosphating compositions for a dry-in-place phosphating having from 53 to 400 g/L phosphate within certain cation:phosphate ranges. The zinc content as expressed in claim 1 may vary between 0.265 and 14 g/L. The manganese content may vary between 2.65 and 60 g/L. Table 1 provides concentrates with a content of Zn of 13.7 and 12.9 g/L respectively and of Mn of 39.5 and 35.5 g/L respectively.

The working compositions (bath compositions) of Table 2 derived from concentrate 1C have a maximum Zn content of 2.68 g/L and a maximum Mn content of 7.74 g/L. The working compositions (bath compositions) of the Tables 4 and 5 derived from the concentrates show a Zn content of 3.2 g/L maximum and a Mn content of 8.9 g/L maximum.

Cuyler's compositions contain polyacrylic acid, amino-phenolic resin polymer or polyacrylate latex in the specified contents as shown in table 2 (balanced to 100 ml with deionized water). In contrast, the examples of the present application show a polymer content in the range from 1 to 58.5 g/L.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

Claim 2 was rejected as allegedly obvious over the combination of Cuyler and Fotinos. Applicants respectfully traverse.

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Fotinos discloses the use hydroxylamine sulphate or an oxime as an accelerator for phopshating. Aromatic nitro-compounds including sodium m-nitrobenzene sulfonate, chlorate and hydrogen peroxide are disclosed in the 4th par. of col. 3 as typical accelerators. Further on, hydrogen peroxide or any of these other accelerators may be additionally used as accelerators in the phosphating solution. Neither the specification, nor the examples reveal any further hint or suggestion to additionally use hydrogen peroxide.

The zinc phosphate compositions of Fotinos contain 0.4 to 3.0 g/L Zn, 0 to 2.5 g/L Mn, 4 to 20 g/L phosphate, 0.005 to 10 g/L W and 0.5 to 20 g/L of hydroxylamine sulphate or an oxime. The examples do not disclose the use of hydrogen peroxide whereby the composition of Example 1 is not indicated. The examples of the present application always include only nitrate or only hydrogen peroxide, but not the combination.

In view of the foregoing, allowance is respectfully requested.

The Commissioner is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 50-0624, under Order No. NY-DNAG 224-US.

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Respectfully submitted,

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